L11: Entry 6 of 16 File: USPT Sep 26, 2000

DOCUMENT-IDENTIFIER: US 6124362 A
TITLE: Method for regulating hair growth

Abstract Text (1):
A method for regulating the growth and loss of hair via the use of compositions containing a compound selected from the group consisting of lupane triterpenes, derivatives of lupane triterpenes, derivatives of oleanane triterpenes, derivatives of ursane triterpenes, and salts and mixtures thereof.

Brief Summary Text (2):
The present invention relates to a method for regulating the growth and loss of hair via the use of compositions containing a compound selected from the group consisting of lupane triterpenes, derivatives of lupane triterpenes, derivatives of oleanane triterpenes, derivatives of ursane triterpenes, and salts and mixtures thereof.

Brief Summary Text (4):
Society in general continues to attach a stigma to hair loss. As a result, men and women who suffer from hair loss often experience self-consciousness relating to the condition. Many methods of "curing" hair loss have been disclosed in the literature and several products claiming to regulate hair growth are currently marketed.

Brief Summary Text (5):
One approach for growing hair involves the much publicized use of minoxidil (Rogaine.RTM.)(6-(1-piperidinyl)-2,4-pyrimidinediamine 3-oxide), a potent antihypertensive agent, as a hair growth promoting agent (see U.S. Pat. Nos. 3,461,461; 3,973,061; 3,464,987; and 4,139,619). Unfortunately, not all people respond to monoxidil and the efficacy level is limited in those individuals who do exhibit a response.

Brief Summary Text (6):
Finasteride (Propecia.RTM.) is another currently marketed product for promoting hair growth. See EP 823436; U.S. Pat. No. 5,670,643; WO 97/15564; and WO 97/15558. Unfortunately, as with minoxidil, not all people respond to finesteride and the efficacy is limited in those people who do exhibit a response. Moreover, the use of finesteride has been associated with reduced libido, teratagenic effects and other side effects in certain individuals.

Brief Summary Text (7):
Another approach for "curing" hair loss involves a procedure of weaving synthetic or natural hair strands into the remaining hair strands of the subject. Such a procedure is time-consuming, expensive and requires follow-up re-weavings as the weaves loosen and/or the subject's existing hair strands grow. Furthermore, such a procedure does not cure hair loss, but merely masked the condition.

Brief Summary Text (8):
Another approach for treating hair loss is the use of hair plugs. This procedure involves the transplantation of terminal hair follicles from regions of normal hair growth on the subject's scalp to regions of thinning or no hair growth on the scalp. This procedure is time consuming, expensive and can be painful. Furthermore, the transplanted plugs, at least in the early stages following transplantation, produce an unnatural look to the scalp.

Brief Summary Text (9):
Thus, there is a need for an easily administered, efficacious agent for treating hair loss in a mammal, which agent has little or no undesirable side effects.

Brief Summary Text (11):
The present invention relates to a method for regulating hair growth. The method comprises the administration to a human of a composition containing from about 0.00001% to about 99.9% of a compound selected from the group consisting of selected from the group consisting of

Brief Summary Text (32):
The present invention relates to a method of regulating hair growth comprising the administration of compositions containing a compound selected from the group consisting of selected from the group consisting of lupane triterpenes, derivatives of lupane triterpenes, salts of lupane triterpene acids, derivatives of oleanane triterpenes, derivatives of ursane triterpenes, and mixtures thereof to a human.

Brief Summary Text (33):
As used herein, the term "regulating hair growth" means increasing the rate of hair growth and/or inducing the formation of a greater number of hair strands, and/or increasing the diameter of the hair strand, and/or lengthening the hair strand, and/or changing the hair follicle from vellus to terminal, and/or converting follicles from telogen to anagen phase (thereby increasing the overall ratio of anagen phase follicles relative to telogen phase follicles) and/or preventing, retarding, or arresting the process of hair loss, and/or treating alopecias.

Brief Summary Text (34):
As used herein, "vellus hair follicle" means a hair follicle which produces a soft, short, and often colorless hair fiber. The size of the vellus follicle is considerably smaller than the terminal hair follicle. In an adult, vellus follicles can be found on the forehead (i.e, receding hair line area) and bald scalp.

Brief Summary Text (35):
As used herein, "terminal follicle" means a hair follicle which produces a coarse, long and often pigmented hair shaft. The size of the terminal follicle is considerably larger, thicker in diameter and linger than the vellus follicle. In an adult, terminal follicles can be found on the scalp, axilla and pubic areas.

Brief Summary Text (36):
As used herein, "anagen phase" refers to the period in the hair follicle growth cycle wherein the follicle is actively growing and producing new hair.

Brief Summary Text (37):
As used herein, "telogen phase" refers to the period in the hair growth cycle wherein the follicle is resting and not producing new hair.

Brief Summary Text (84):
The compositions which are utilized in the method of the present invention preferably also contain a solid, semi-solid or liquid cosmetically or pharmaceutically acceptable vehicle to act as a diluent, dispersant or carrier for the active components in the composition. As used herein, "pharmaceutically-acceptable" means that drugs, medications or inert ingredients which the term describes are suitable for use in humans and lower animals without undue toxicity, incompatibility, instability, irritation, allergic response, and the like. As used herein, "cosmetically acceptable" means that ingredients which the term describes are suitable for use in contact with the skin or hair of humans and lower animals without undue toxicity, incompatibility, instability, irritation, allergic response and the like. The cosmetically or pharmaceutically acceptable vehicles comprise from about 0.1% to about 99.999%, preferably from about 25% to about 99.99%, more preferably from about 50% to about 99.99%, even more preferably from about 75% to about 99.9%, most preferably from about 85% to about 99.9% by weight of the composition.

Brief Summary Text (177):
2. Other Hair Growth Agents

Brief Summary Text (178):
The compositions herein may also optionally comprise an activity enhancer or enhancers. The activity enhancer or enhancers can be chosen from a wide variety of molecules which can function in different ways to enhance the hair growth effects of a compound of the present invention. These optional activity enhancers, when present, are typically employed in the compositions herein at a level ranging from about 0.01% to about 15%, preferably from about 0.1% to about 10%, most preferably from about 0.5% to about 5% by weight of the composition.

Brief Summary Text (181):
Another suitable class of optional activity enhancers are immunosuppressants such as 1) cyclosporin and cyclosporin analogs including those described in U.S. Provisional Patent Application No. 60/122,925, Fulmer et al., "Method of Treating Hair Loss Using Non-Immunosuppressive Compounds", filed Mar. 5, 1999, herein incorporated by reference, and 2) FK506 analogs such as those described in U.S. Provisional Patent Application No. 60/102,449, McIver et al., "Heterocyclic 2-Substituted Ketoamides", filed Sep. 30, 1998, U.S. Provisional Patent Application No. 60/102,448, McIver et al., "2-Substituted Ketoamides", filed Sep. 30, 1998, U.S. Provisional Patent Application No. 60/102,539, McIver et al., "2-Substituted Heterocyclic Sulfonamides", filed Sep. 30, 1998, U.S. Provisional Patent Application No. 60/102,458, Tiesman et al., "Method of Treating Hair Loss Using Ketoamides", filed Sep. 30, 1998, and U.S. Provisional Patent Application No. 60/102,437, McIver et al., "Method of Treating Hair Loss Using Sulfonamides", filed Sep. 30, 1998, all of which are herein incorporated by reference.

Brief Summary Text (184):
Another suitable class of optional activity enhancers are thyroid hormones and derivatives and analogs thereof. Examples of suitable thyroid hormones for use herein may include triiodothyrionine. Examples of thyroid hormone analogs which may be suitable for use herein include those described in U.S. Provisional Patent Application No. 60/136,996, Zhang et al., "Method of Treating Hair Loss", filed Jun. 1, 1999, U.S. Provisional Patent Application No. 60/137,024, Zhang et al., "Method of Treating Hair Loss Using Biphenyl Compounds", filed Jun. 1, 1999, U.S. Provisional Patent Application No. 60/137,022, Zhang et al., "Method of Treating Hair Loss Using Carboxyl Derivatives", filed Jun. 1, 1999, U.S. Provisional Patent Application No. 60/137,023, Zhang et al., "Method of Treating Hair Loss Using Sulfonyl Thyromimetic Compounds", filed Jun. 1, 1999, U.S. Provisional Patent Application No. 60/137,052, Youngquist et al., "Biaryl Compounds", filed Jun. 1, 1999, U.S. Provisional Patent Application No. 60/137,063, Youngquist et al., "Sulfur-Bridged Compounds", filed Jun. 1, 1999, and U.S. Provisional Patent Application No. 60/136,958, Youngquist et al., "Substituted Biaryl Ether Compounds", filed Jun. 1, 1999.

Brief Summary Text (185):
Prostaglandin agonists or antagonists can also be used as optional activity enhancers in the compositions herein. Examples of suitable prostaglandins agonists or antagonists include latanoprost and those described in WO 98/33497, Johnstone, published Aug. 6, 1998, WO 95/11003, Stjernschantz, published Apr. 27, 1995, JP 97-100091, and Ueno, JP 96-134242, Nakamura.

Brief Summary Text (190):
Other hair growth agents are described in detail in, for example, JP 09-157,139 to Tsuji et al, published Jun. 17, 1997; EP 0277455 A1 to Mirabeau, published Aug. 10, 1988; WO 97/05887 to Cabo Soler et al, published Feb. 20, 1997; WO 92/16186 to Bonte et al, published Mar. 13, 1992; JP 62-93215 to Okazaki et al, published Apr. 28, 1987; U.S. Pat. No. 4,987,150 to Kurono et al, issued Jan. 22, 1991; JP 290811 to Ohba et al, published Oct. 15, 1992; JP 05-286,835 to Tanaka et al, published Nov. 2, 1993, FR 2,723,313 to Greff, published Aug. 2, 1994, U.S. Pat. No. 5,015,470 to Gibson, issued May 14, 1991, U.S. Pat. No. 5,559,092, issued Sep. 24, 1996, U.S. Pat. No. 5,536,751, issued Jul. 16, 1996, U.S. Pat. No. 5,714,515, issued Feb. 3, 1998, EPA 0,319,991, published Jun. 14, 1989, EPA 0,357,630, published Oct. 6, 1988, EPA 0,573,253, published Dec. 8, 1993, JP 61-260010, published Nov. 18, 1986, U.S. Pat. No. 5,772,990, issued Jun. 30, 1998, U.S. Pat. No. 5,053, 410, issued Oct. 1, 1991, and U.S. Pat. No. 4,761,401, issued Aug. 2, 1988, all of which are herein incorporated by reference.

Brief Summary Text (192):
In addition to other hair growth agents, other hair or skin active agents can be incorporated into the compositions herein in safe and effective amounts.

Brief Summary Text (193):
The term "safe and effective amount" as used herein, means an amount of an active ingredient high enough to modify the condition to be treated or to deliver the desired skin or hair benefit, but low enough to avoid serious side effects, at a reasonable benefit to risk ratio within the scope of sound medical judgment. What is a safe and effective amount of the active ingredient will vary with the specific active, the ability of the active to penetrate through the skin/hair, the age, health condition, and skin/hair condition of the user, and other like factors.

Brief Summary Text (202):
The method of the present invention involves the administration of the compositions described herein for regulating hair growth in mammals (e.g., humans and domestic animals). In one embodiment, the present invention provides for the prevention of hair loss. In another embodiment, the present invention provides for the use of compositions containing betulinic acid for stimulating new hair growth.

Brief Summary Text (203):
The compositions of the present invention can be administered topically, orally or parenterally. The preferred method of the present invention involves the topical application of the compositions described herein to the scalp, particularly where the scalp is already bald or balding. The amount of the composition and the frequency of application to the hair and/or scalp/skin can vary widely, depending on the desired effect and/or personal needs. Typically the composition is applied from about 1 to about 10 times per day, more typically from about 1 to about 6 times per day and most typically from 1 to 3 times per day.

Brief Summary Text (207):
Topical compositions of the present invention can also be delivered via conventional hair care products, including, but not limited to shampoos, conditioners, styling products or other leave-in or rinse off products.

CLAIMS:

1. A method for regulating hair growth comprising the administration to a human of a composition comprising about 0.00001% to about 99.9% of a compound selected from the group consisting of:

a) lupane triterpenes having the structure: ##STR18## Where R.sup.1 is either 1) connected to the ring system via a single bond, either .alpha.- or .beta.-configuration, and is selected from the group consisting of: H, OH, R.sup.4, OR.sup.4, OCOR.sup.4, OCOOR.sup.4, OCONHR.sup.4, or OCON(R.sup.4).sub.2 : halogen where R.sup.4 is independently selected from the group consisting of a) cyclic, straight chain or branched chain, saturated or unsaturated, substituted or unsubstituted alkyl groups containing from 1-20 carbons, where the alkyl group, if substituted, is substituted with a substituent selected from the group consisting of: i) halogens, ii) substituted or unsubstituted aryl groups comprising from 1 to 5 rings with or without heteroatoms, which heteroatoms are selected from the group consisting of nitrogen, oxygen or sulfur, where the aryl group, if substituted, is substituted with a substituent selected from the group consisting of halogens, alkyl groups, OH, OR.sup.4, OCOR.sup.4, OCOOR.sup.4, OCONHR.sup.4, or OCON(R.sup.4).sub.2 iii) OH, iv) OR.sup.4, v) OCOR.sup.4, vi) OCOOR.sup.4, vii) OCONHR.sup.4, or viii) OCON(R.sup.4).sub.2 and b) substituted or unsubstituted aryl groups comprising from 1 to 5 rings with or without heteroatoms, which heteroatoms are selected from the group consisting of nitrogen, oxygen or sulfur, where the aryl group, if substituted, is substituted with a substituent selected from the group consisting of halogens, alkyl groups, OH, OR.sup.4, OCOR.sup.4, OCOOR.sup.4, OCONHR.sup.4, or OCON(R.sup.4).sub.2), or

2) connected to the ring system via a double bond and is selected from the group consisting of a) oxygen, b) sulfur and c) R.sup.4,

Where R.sup.2 is selected from the group consisting of: CH.sub.3, CH.sub.2 OH, CH.sub.2 OR.sup.4, CHO, CO.sub.2 H, CO.sub.2 R.sup.4, COHNR.sup.4, CON(R.sup.4).sub.2, CH.sub.2 OCOR.sup.4 where R.sup.4 is independently selected from the group consisting of a) cyclic, straight chain or branched chain, saturated or unsaturated, substituted or unsubstituted alkyl groups containing from 1-20 carbons, where the alkyl group, if substituted, is substituted with a substituent selected from the group consisting of: i) halogens, ii) substituted or unsubstituted aryl groups comprising from 1 to 5 rings with or without heteroatoms, which heteroatoms are selected from the group consisting of nitrogen, oxygen or sulfur, where the aryl group, if substituted, is substituted with a substituent selected from the group consisting of halogens, alkyl groups, OH, OR.sup.4, OCOR.sup.4, OCOOR.sup.4, OCONHR.sup.4, or OCON(R.sup.4).sub.2 iii) OH, iv) OR.sup.4, v) OCOR.sup.4, vi) OCOOR.sup.4, vii) OCONHR.sup.4, or viii) OCON(R.sup.4).sub.2; and b) substituted or unsubstituted aryl groups comprising from 1 to 5 rings with or without heteroatoms, which heteroatoms are selected from the group consisting of nitrogen, oxygen or sulfur, where the aryl group, if substituted, is substituted with a substituent

selected from the group consisting of halogens, alkyl groups, OH, OR.sup.4, OCOR.sup.4, OCOOR.sup.4, OCONHR.sup.4, or OCON(.sup.4).sub.2;

And where R.sup.3 is selected from the group consisting of C(CH.sub.3).dbd.CH.sub.2, CH(CH.sub.3).sub.2, COCH.sub.3, CH(OH)CH.sub.3, CH.sub.2 CH.sub.3, C(R.sup.5)(CH.sub.3)CH.sub.2 R.sup.5, or C(CH.sub.3).sub.2 R.sup.5, CH(CH.sub.3)CH.sub.2 R.sup.5, where R.sup.5 is selected from the group consisting of OH and a halogen.

8. The method of claim 7 which additionally comprises a second hair growth agent selected from the group consisting of zinc salts of carboxylic acids, saponins, other triterpenes such as oleanolic acid and ursolic acid, crataegolic acid, celastrol, asiatic acid, inhibitors of 5-.alpha.-reductase such as progesterone, 1,4-methyl-4-azasteroids, in particular 17-.beta.-N,N-diethylcarbamoyl-4-methyl-4-aza-5-.alpha.-androstan-3-one, androgen receptor antagonists such as cyproterone acetate, Minoxidil.RTM., azelaic acid and its derivatives, cyclosporin, triiodothyronine, diazoxide, potassium channel openers such as cromakalin, phenytoin and mixtures thereof.

9. The method of claim 2 wherein the composition is applied to the scalp where the hair is bald or balding.

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L18: Entry 6 of 17 File: JPAB Sep 9, 1997

PUB-NO: JP409235230A
DOCUMENT-IDENTIFIER: JP 09235230 A
TITLE: IONTOPHORESIS PREPARATION

PUBN-DATE: September 9, 1997

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APPL-NO: JP08357992
APPL-DATE: December 28, 1996

INT-CL (IPC): A61 K 31/557; A61 K 31/557; A61 K 9/00; A61 K 47/40; A61 N 1/30

ABSTRACT:

PROBLEM TO BE SOLVED: To administer prostaglandin E1 (PGE1) to skin or mucous membrane by means of iontophoresis to remarkably increase the cutaneous absorption rate of medicines to attain sufficient medicinal concentration and effectively improve the stability of PGE1 which is unstable by itself with the passage of time.

SOLUTION: Iontophoresis is applied to PGE1 to produce a cutaneous or mucocutaneous preparation of PGE1 where the PGE1 is clathrated in cyclodextrin and the objective iontophoresis preparation contains the clathrated PGE1.

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L18: Entry 5 of 17 File: JPAB Nov 18, 1997

PUB-NO: JP409295921A
DOCUMENT-IDENTIFIER: JP 09295921 A
TITLE: HAIR GROWING AND TONIC AGENT

PUBN-DATE: November 18, 1997

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APPL-NO: JP08134242
APPL-DATE: May 1, 1996

INT-CL (IPC): A61 K 7/06; A61 K 31/557

ABSTRACT:

PROBLEM TO BE SOLVED: To obtain a hair growing and tonic agent comprising a metabolite, etc., of prostaglandin F2α, having hair growing and tonic effects, etc., due to promoting actions on functions of a skin cell as an active ingredient and blended therein.

SOLUTION: This hair growing and tonic agent comprises one or more compounds, selected from 13,14-dihydro-15-keto-9 (α), 11 (α)-dihydroxy-5-cis-13-trans-prostadienoic acid and its derivative and (+)-Z-7-[(1R, 2R, 3R, 5S)-3,5-dihydroxy-2-(3-oxodexyl)cyclopentyl]hept-5-enoic acid and its derivative and blended therein. The compounds are, e.g. (+)-isopropyl Z-7-[(1R, 2R, 3R, 5S)-3,5-dihydroxy-2-(3-oxodecyl)cyclopentyl]hept-5-enoate.